

R E M A R K S

Claims 1-3, 7-9,15 and 16 currently remain in the application. Claims 4-6 and 10-14 are herein canceled, claim 16 is a newly introduced claim, and claims 1, 8 and 9 are herein amended.

Claims 10-13 were rejected under 35 U.S.C. 102 as being anticipated by Izumi. This rejection, however, is a moot point because these claims are herein canceled.

Claims 1-9, 14 and 15 were rejected under 35 U.S.C. 103 over Izumi in view of Japanese Patent Publication 2000-241315 (referred to by the Examiner as "Hiroyuki"). At least in part in view of these cited references, claim 1 has been amended so as to now say that the message which is displayed is one included in the display setting data group. This characteristic is supported in the specification and hence amendment should be deemed enterable.

The claims that currently remain relate to providing at least one display setting data group (as shown in Fig. 4) including a message to be displayed on the display device and a control command for switching on and off the back light, and the user program of the PLC includes a display command (as shown in Fig. 3) including as operand a parameter for selectively specifying the display setting data group. As the display command is carried out by the cyclic execution of the user program, the display setting data group specified by this parameter is read out and the switching on and off of the back light is controlled by the control command in this specified display setting data group.

In summary, the display setting data group according to this invention includes both a display message and a back light control command for each of setting data while the user program of the PLC describes a display command including a parameter for selectively specifying a display setting data group. With the invention thus structured, the user can preliminarily prepare a plurality of desired display setting data groups and describe a user program for selectively specifying a desired display setting data group at a suitable position within the user program. Thus, the present invention has a surprising (novel) result of being able to control the switching on and off a back light efficiently according to the user's object of use.

Next, the two references relied upon by the Examiner will be analyzed sequentially.

Izumi relates to a display control device for displaying text and figure data, comprising a display data buffer, a display control part, a back light, an output part for outputting a back light switching command and a control part for controlling the back light switching. As a back light switching command is outputted from this output part, the switching control of the back light is carried out and the form of the display data is changed by the display control part.

According to Izumi, display data for individually different use purposes and switching times of back light corresponding to the display data are stored in a display buffer provided to the RAM 7 shown in Fig. 3 (column 6, lines 30-43). Thus, it is this display buffer that may be considered to correspond to a portion of the display data setting group of the present invention. It is to be noted, however, that the display buffer of Izumi does not include the command data corresponding to the back light control command of the present invention. For this reason, Izumi's device is adapted to separately output a back light switching command.

This back light switching command (to be separately outputted according to Izumi) is outputted by the control part comprising an internal CPU under the control of the system program stored in the ROM 6 (shown also in Fig. 3) as the user operates on an input device such as a keyboard or a transparent tablet provided on the surface of a display panel. What is important and is to be remarked here is that Izumi's device is so structured that the back light switching command is outputted corresponding to the user's input operation under the control of the system program of the display control device which is not open to the user. As such back light switching command is received, the display controller 8 (shown in Fig. 3) serves to carry out a display control by using display data for individual applications and the back light switching time data corresponding to the display data that are preliminarily stored in the display buffer. Thus, Izumi may be summarized as being an invention related to a display control device adapted to carry out a specified display control by a back light switching command outputted by the system program of the control device, based on the display data stored in the display buffer and the corresponding display control data.

Although Izumi includes a statement that a control similar to the system program stored in the ROM 6 is possible if a program is read into the RAM 13 from the storage

medium 13 shown in Fig. 3 (column 7, lines 9-13), this does not mean any more than that it is physically possible to read the system program from the storage medium 13 into the RAM 13. There is no clear statement that any user program freely created and edited by the user can be read in for using it as the system program. Neither is there any convincing reason to believe that Izumi had such a far-fetched application in mind.

In contrast to Izumi thus interpreted, the present invention teaches the operation of preliminarily setting and storing at least one display setting data group including a message to be displayed on the display device and a control command for switching on and off the back light, as well as that of describing (providing) a display command having a parameter (as operand) for selectively specifying display setting data to a user program of the PLC which can be freely created and edited by the user. As such display command is carried out, the corresponding display setting data are directly selected and specified by the parameter and the switching on and off of the back light is controlled by the control command that is included in the setting data.

To summarize the comparison between Izumi and the present invention as being claimed, Izumi does not disclose or even hint at the user program as characterizing the present invention, nor the display command as a command element of such a user program. It is also to be reminded that Izumi's display buffer does not include any command data that may be considered to correspond to the back light control command according to the present invention. In other words, Izumi fails to disclose or teach any structure for or operation of selectively specifying display setting data through a parameter of a display command in a user program and controlling the switching on and off of the back light by a control command contained in such display setting data.

Japanese Patent Publication 2000-241315 (referred to by the Examiner as "Hiroyuki") was considered by the Examiner for disclosing a programmable controller system equipped with a programmable controller of a certain type. It relates to a display device adapted to be connected to a PLC to allow the setting of data related to the contents of its control and provided with a display part for displaying desired data where a "character string" of "I/O comment for the maintenance of a program" written in the PLC can be displayed by a support tool (Abstract). Such a character string is an internal data item of the PLC is adapted

to be transmitted to a setting display unit 10 in response to a request from the setting displaying unit 10, and there is no disclosure of a control of display data in connection with the execution of a user program (as disclosed by the present invention). Moreover, this reference is totally silent of any structure for the control of the switching on and off of a back light according to a control command within display setting data (as characterizing the present invention). In other words, this reference may be said to relate to a structure for transmitting internal data of a PLC according to a request from a setting display unit connected to a programmable controller for making a display but not to any content or form of the display.

Thus, neither Izumi nor "Hiroyuki" discloses or even hints at a structure for selectively specifying any display setting data group by a parameter of a display command in a user program and controlling the switching on and off of a back light by a control command in this setting data group. Thus, even if these references are considered in combination together, the rejection of the claims of the present application cannot be predicated.

Claim 16 is a new dependent claim addressed to a particular aspect of the invention supported by the specification and hence is believed to be not only enterable but also allowable. The title of the invention has been amended as the claims section has been modified.

In summary, it is believed that the application is now in condition for allowance.

Respectfully submitted,



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